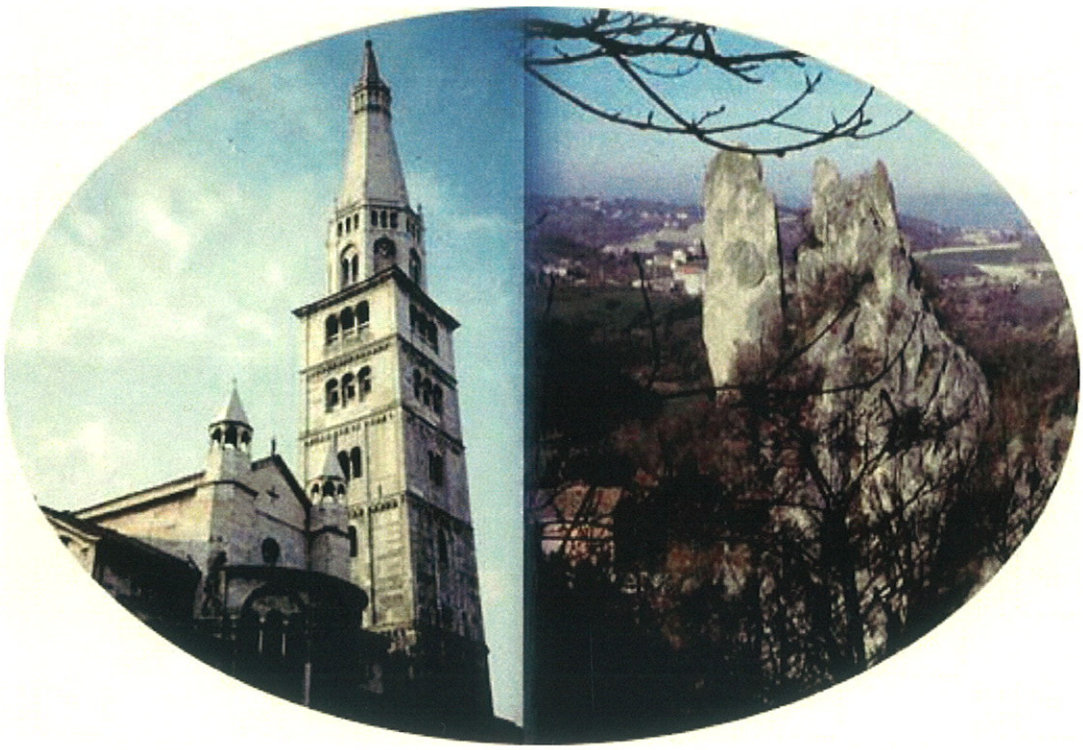
The Ophiolite of Pompeano

GEOMORPHOLOGY
GEOMORPHOLOGIE

GEOMORPHO
SITES

Workshop

Geomorphological Sites: research, assessment and improvement



Modena (Italy) 19-22 June 2002

PROCEEDINGS

WORKSHOP

Geomorphological Sites: research, assessment and improvement

Modena (Italy), 19-22 June 2002

PROCEEDINGS

Edited by Paola CORATZA and Mauro MARCHETTI

Dipartimento di Scienze della Terra
Università degli Studi di Modena e Reggio Emilia
2002

The Ophiolite of Pompeano

The ophiolites of the Northern Apennines form isolated ridges, emerging from the surrounding landscape owing to selective erosion processes (morpho-selection), with more or less characteristic features (Bertacchini and Bonacini, 1993). These igneous rocks, which are associated with the argillaceous formations of the Ligurian Units (allochthonous), are fragments of the oceanic crust of the Tethys basin which was closed during the Alpine and Apennine orogenesis. The most spectacular outcrops are found in the Ligurian Apennines, whereas in the Modena district they are smaller, although frequent (Bertolani and Capedri, 1966).

The Ophiolite of Pompeano, which is made up of dark green to blackish, massive or brecciated serpentinites, with clasts of different sizes – deriving originally from tectonitic peridotites – is located in the mid-valley of the River Rossenna, not far from the village of Serramazzoni. It stands out on the surrounding territory, which is mostly made up of clay shales (Basal Complexes), since it is less subject to the action of weathering and erosional agents. This ophiolite cliff has very steep slopes over 5 m high. On its top (596 m a.s.l.) the ruins of a castle from the 13th century are still visible, although its state of conservation is rather poor. The underlying hamlet of Pompeano was partly built on the cropping out rock. A very interesting cave (the so-called "Grotta Tassoni") is present on the northern face of the outcrop; it probably originated along a tectonic discontinuity but was subsequently enlarged by slope movements. This cavity intercepts groundwater at the boundary between the ophiolite and the underlying clay shale, forming a small impoundment connected with a spring located just outside it (Capedri *et al.*, 1999).

A distinctly xerophilous botanical community is present on the area, with trees such as the Montpellier maple (*Acer monspessulanum*) and the laburnum (*Laburnum anagyroides*), and herbaceous plants such as *Sedum maximum* and *Sempervivum tectorum*.

Cecilia GIUSTI, Mauro MARCHETTI and Giovanni TOSATTI

Geomorphological Sites: research, assessment and improvement- Workshop Proceedings, Modena (Italy), 19-22 June 2002
Edited by P. CORATZA and M. MARCHETTI